

Abstract

Polyethylene moulding compound with an improved ESCR/stiffness relation and an improved swelling rate, a method for the production thereof and the use thereof

The invention relates to a polyethylene moulding compound having a multimodal molecular weight distribution which has an overall density of $\geq 0.940 \text{ g/cm}^3$ and an $\text{MFI}_{190/5}$ in the range from 0.01 to 10 dg/min. The moulding compound according to the invention comprises an amount of from 30 to 60% by weight of low-molecular-weight ethylene homopolymer A which has a viscosity number VN_A in the range from 40 to $150 \text{ cm}^3/\text{g}$, an amount of from 30 to 65% by weight of high-molecular-weight copolymer B comprising ethylene and a further olefin having from 4 to 10 carbon atoms which has a viscosity number VN_B in the range from 150 to $800 \text{ cm}^3/\text{g}$, and an amount of from 1 to 30% by weight of ultrahigh-molecular-weight ethylene homopolymer C which has a viscosity number VN_C in the range from 900 to $3000 \text{ cm}^3/\text{g}$.

The invention also relates to a method for the production of the moulding compound in a three-step process, and to the use thereof for the production of hollow articles.

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